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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,800	08/17/2006	Youji Inoue	U 016441-4	2403
140	7590	10/28/2009	EXAMINER	
LADAS & PARRY LLP 26 WEST 61ST STREET NEW YORK, NY 10023			SUCH, MATTHEW W	
			ART UNIT	PAPER NUMBER
			2891	
			NOTIFICATION DATE	DELIVERY MODE
			10/28/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

nyuspatactions@ladas.com

Office Action Summary	Application No. 10/589,800	Applicant(s) INOUE ET AL.	
	Examiner MATTHEW W. SUCH	Art Unit 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11, 12, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 11, 12 and 18 is/are allowed.
- 6) ☐ Claim(s) 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over (Suzuki et al., Proc. 2003 MRS Fall Meeting, K10.52 as provided in the Information Disclosure Statement dated 17 August 2006). Suzuki et al. disclose synthesis and properties of perfluorinated pentacene (C₂₂F₁₄), as the n-type semiconductor material in organic field effect transistors, OFETs (see section K10.52 of MRS Fall 2003 Symposium Program: "Symposium K: Functional Organic Materials and Devices"). However, Suzuki fails to teach the conventional required structural elements and order of these elements in order to form an organic field effect transistor.

However, Katz teaches an organic field effect transistors with a substrate (Element 10) and thin films of a gate electrode (Element 12), a gate insulating film (Element 14), organic semiconductor layer (Element 16), and source and drain electrodes (Elements 18 and 20) stacked on the substrate in this order. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the organic field effect transistor of Suzuki with the conventional configuration taught by Katz. One would have been motivated to do so since Katz

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teaches that this configuration is advantageous because it provides intimate contact to the organic semiconductor and reliable device performance (Col. 2, Lines 59-63).

The language, term, or phrase "wherein the thin film of organic semiconductor layer is obtained by controlling temperature of the substrate to 30°C or higher and 65°C or lower and vacuum-depositing tetradecafluoropentacene (C₂₂F₁₄) on the substrate 1×10⁻⁴ pascals or lower", is directed towards the process of making a tetradecafluoropentacene (C₂₂F₁₄) organic semiconductor layer. It is well settled that "product by process" limitations in claims drawn to structure are directed to the product, per se, no matter how actually made. In re *Hirao*, 190 USPQ 15 at 17 (footnote 3). See also, In re *Brown*, 173 USPQ 685; In re *Luck*, 177 USPQ 523; In re *Fessmann*, 180 USPQ 324; In re *Avery*, 186 USPQ 161; In re *Wethheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re *Marosi et al.*, 218 USPQ 289; and particularly In re *Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or otherwise. The above case law further makes clear that applicant has the burden of showing that the method language necessarily produces a structural difference. As such, the language "wherein the thin film of organic semiconductor layer is obtained by controlling temperature of the substrate to 30°C or higher and 65°C or lower and vacuum-depositing tetradecafluoropentacene (C₂₂F₁₄) on the substrate 1×10⁻⁴ pascals or lower" only requires a tetradecafluoropentacene (C₂₂F₁₄) organic semiconductor layer, which does not distinguish the invention from Suzuki in view of Katz, who teaches the structure as claimed.

Allowable Subject Matter

3. Claims 11-12 and 18 are allowed.
4. The following is an examiner's statement of reasons for allowance:

Regarding claim 11, a search of the prior art does not disclose or reasonably suggest a method of fabricating an organic thin-film transistor comprising a substrate and an organic semiconductor layer, wherein the organic semiconductor layer is obtained by controlling temperature of the substrate to 30°C or higher and 65°C or lower and vacuum-depositing tetradecafluoropentacene (C₂₂F₁₄) on the substrate at 1×10⁻⁴ pascals or lower.

Regarding claim 12, a search of the prior art does not disclose or reasonably suggest a method of fabricating an organic thin-film transistor comprising a substrate and an organic semiconductor layer, wherein the organic semiconductor layer is obtained by controlling temperature of the substrate to 24°C or higher and 65°C or lower and vacuum-depositing dodecafluoronaphthacene (C₁₈F₁₂) on the substrate at 1×10⁻⁴ pascals or lower.

Regarding claim 18, a search of the prior art does not disclose or reasonably suggest a n organic thin-film transistor comprising a substrate and thin films of gate electrode, gate insulating film, organic semiconductor layer, and source and drain electrodes stacked on the substrate in order, wherein the thin film of organic semiconductor layer is dodecafluoronaphthacene (C₁₈F₁₂).

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

5. Applicant's arguments, see Remarks, filed 13 July 2009, with respect to the rejection of claims 11 and 12 have been fully considered and are persuasive. The rejection of claims 11 and 12 has been withdrawn.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW W. SUCH whose telephone number is (571)272-8895. The examiner can normally be reached on Monday - Friday 9AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kiesha Bryant can be reached on (571) 272-1844. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew W. Such/
Examiner, Art Unit 2891

MWS
10/21/09

/Douglas M Menz/
Primary Examiner, Art Unit 2891
10/25/09